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The ATCO

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ATCO WA8RUT REPEATER UPDATE

Well, big things are happening again. The desense was back and the weak signal guys on 432.0 were complaining about interference...so we moved down to try 421. Well that produced interference there too so now we're back to 427. See how we did it and what success we had by reading on. Lots of new stuff is on the horizon.

ATCO

HAM IN THE SPOTLIGHT

This time I made a trip out to see Bill Rose KB8UU in West Jefferson, Ohio. It was quite a trip but well worth it to see his ATV setup. The monitor just above Bill's head is the 1250MHz receiver sending his 439MHz signal back from the repeater while the monitor on the left is for local video. The monitor below the 1250 one is for 427 (blank at this time because he's transmitting on that band). Quite impressive, right? It was dark outside but the outside landscape suggests there's a lot of room available for more antennas. How about it, Bill? As a "regular" I'm sure his excellent video will get even better in the future. Keep up the good work and thanks for the visit.



ACTIVITIES ... from my 'workbench"

Boy, it's been busy since last time. Only problem ...very little seems to get accomplished. I'm sure that the rest of you share my situation to some degree but never the less that doesn't give me that warm fuzzy feeling if you know what I mean. Too much task multiplexing where everything gets *started* but very little gets *finished*! Well, warmer weather is just about here so the attention span goes to outdoor activities.

First, the rooftop camera project...still working on it. Next subject.

The repeater has had its share of problems this last winter. One of the few breakdowns occurred about a month ago where the controller died. Thank goodness Dale WB8CJW was there to rescue it. He had to shut down the repeater for a few days while he did some surgery in his basement. The power supply was replaced and some re-initialization of control codes brought it back to life again. He extended the time at the end of a transmission so the repeater will look for signals on the other inputs longer before shutting down. This may seem like "trash" at the end but it allows time to see the other inputs and if detected, switches to the one with signal without interruption.

As you know, we were experiencing interference problems with our 427.25 signal from two areas. The weak signal hams operating on 432.00 complained that our signal was still too strong on their frequency preventing DX operation much of the time. Also, because of the earlier input change to 439 lower sideband detection, our own receiver was being severely desensed by our transmit signal. As a result we decided to try 421.25 as a transmit frequency. This was met with severe objections by a group already on 421MHz even though it was not known if interference to their operation existed. After reports that we were in fact interfering, we promptly moved our signal back to 427 where it resides today. To make the best of our original problem, we decided that by adding more filters to the transmitted signal, we could make the cutoff bandpass sharp enough to minimize the interference to 432MHz. The new filters are now installed (14 poles) resulting in a much-improved situation with the signal suppressed an additional 20dB @ 432! To help matters even more, we installed hi power/low power controls that allow us (or the DX'ers) to switch the repeater output power from 100 watts to 2 watts via touch tone remotely. Check the repeater technical data section for the specifics. All seems to be operating well in this area now.

Next and probably the most important addition recently is the added output frequency on 2441 MHz. Ken couldn't wait for warmer weather for this one (and I can't blame him) so he and Dale braved the cold 40 degree wind on the roof to install a temporary antenna for the new 2.4ghz FM output. Results are reported to be fantastic, even with the 2 watt signal, and I'm told that it's better than 1250MHz which is P5+ at this QTH. I don't have my 2.4ghz receiver operational yet but if the nice weather lasts this weekend, I'll install it and check it out. As soon as the weather gets better, we'll finalize the repeater antenna location so it will only get better from here. I'm anxiously standing by to see if this band will enjoy a lot of activity. Maybe, if so, we can devote a Newsletter section to 2.4ghz activity news and tips. I'll keep you informed.

Okay, now that the 2.4ghz is installed, a new problem has surfaced. At the same time (is it coincidence or related) the 1280MHz receiver is now picking up the local channel 4 (72MHz) signal is being received on the 70MHz I.F. lines of that receiver. This is cycling the repeater continuously at certain times generating an annoyance so a few times we had to just shut the system down to prevent cycling. The last time I was up there, I looked for problems but as you might suspect, it wasn't a problem that day. This weekend I plan to return with a roll of aluminum foil to make a "mummy" of the 70MHz IF amplifier till such time we have a chance to put the whole receiver system in an RF tight enclosure. It's always something isn't it? However, that's what ham activities are all about. It wouldn't be fun if it worked the first time (or would it?).

Let's see, have I covered everything? I guess that's it for now. There's still room on the page below this but maybe I'll just insert a puzzle or something to fill the space. You're probably tired of hearing me ramble anyway. (Soapbox mode <OFF>)

...Art WA8RMC

THE MISSING DOLLARcan you figure it out?

Three ATV'ers went to the Dayton Hamvention and asked for a room at the local hotel. The clerk said they had only one room left and it would cost \$30, so each man handed over \$10 a piece for a total of \$30. When they went upstairs, the clerk realized he overcharged them because it was not a \$30 room, it was only a \$25 room. The clerk called the bellboy over and explained how he overcharged the three ATV'ers and instructed the bellboy to take five \$1 bills up to their room.

On the way up, the bellboy decided he did not know how to divide \$5 by three. So, he put \$2 in his pocket and proceeded to the room where he handed each ATV'er a \$1 bill back, so they then each had paid only \$9 a piece for the room.

Well then, \$9 times three men means that they paid only $9 \times 3 = \$27$ So their \$27 plus the \$2 in the bellboy's pocket equals \$29. Where the heck is the other dollar???

...Art WA8RMC

TECH TALKLet's learn something technical

Well, I thought for a moment that I couldn't find any material of technical nature to insert in the "TECH TALK" section this time. I searched the Internet and finally found something with , what I believe to be, a breakthrough in technology. This, I said, MUST go in the Newsletter so all of our readers can say they read it here first! Read on, for what follows is quite revolutionary! WA8RMC.

N2Cor has announced a new micro molecular cooling break though for semiconductors. Using atomic level molecular construction, N2Cor has been able to fabricate laboratory samples of common semiconductors, which can be cooled to super conducting levels. The new devices have micro channels and tunnels in the substrate and conducting materials. These are interconnected and allow passage of single atom and single molecule streams of liquid nitrogen at more than -109 degrees. A common input and output manifold is brought out to a micro connection and check value at the side of the device, allowing the devices to be plugged into micro channels in circuit boards which would then be connected to a device cooling pump. Pressure Levels in the magnitude of 10 -8 Tor, provide a cooling stream flow of 1000 molecules of coolant per second per micrometer of tunnel. The liquid cooling is expected to reduce device temperatures to allow for 2 orders of magnitude higher currents providing an additional 20 dB of device gain, and a corresponding reduction in thermal noise for low noise receiver application with noise levels in the single electron rhelm. This is expected to reduce the noise in super sensitive CCD arrays used for astronomy and night vision video cameras to undetectable levels, providing "daylight" picture quality in total darkness. A common 78L05 voltage regulator modified with tunnel cooling was able to provide over 100 amps of regulated current before boil over which occurred after a grueling 35 microseconds.

The first application was in accurate measurement of an RCH, a previously finite but seldom accurate unit of measurement. The device, operating in the infrared range was able to determine the temperature difference between an RCH and adjacent bio mass, and this was used to calculate an accurate dimension of an actual RCH, not to be confused with an RCA, a red meatball used to denote the location for application of a 6 pound hammer blow at 40 kps to fix the compressor used to cool the device. President Clinton hailed the determination of the RCH dimension as a great leap forward for mankind.

ANSI has announced the introduction of a new symbol to be incorporated into the standard ASCII character set. The code will be 96decimal or \$60h. A spokesman said this was only the beginning of a new set of series of characters to be introduced over the next year to accommodate digital video encryption, compression, decryption, and reception. The new code will be used to designate the repair rate charge for new DTV home receivers.

Soni Corp has announced a TV on a chip. At the presentation before the FCC, the wrist watch sized TV had a color LCD display of over 3 million pixels, decoded 3 of the table 3 DTV systems and NTSC or PAL. Measuring 16" by 9" (worn so the long dimension is parallel to the forearm) it also incorporated a mini computer with 56 function keys, 10 user programmable keys, an LCD hourglass busy indicator, and a stereo CB transceiver. Power was from two standard AA batteries. (Batteries not included). Battery life was rated at 30 minutes or Equivalent Windows boot up time. The consumer version will be powered by thermocouple technology using body heat, with a silver oxide battery for backup. Dubbed the Wrist Computer, it will be available in brushed stainless steel or 22 k Gold plate. An executive deluxe model will include software for phone books, appointment calendars and expense reports. Initial price is expected to be \$9999. Infomercials are being shot and when the mass market is opened, K-Tel will offer a unit for \$29.95. (Prices slightly higher in the West).

...Henry KB9FO

(April Fool)

BOOTLEGERS AGAIN, BUT...are we finally getting through to someone?

I'm going to risk becoming very unpopular by bringing up this subject seemingly over and over. However, not only is it a very important topic, but I believe some commercial vendors are going to start listening. Shown after the "soapbox campaign" and Tom's statement, is a response from Brad Thomas KC1EX who is the Advertising manager for the ARRL. I believe you'll find it uplifting. In any case, it's up to us to help preserve the bandspace we already have. Ed.

First Steve speaks out:

Soapbox mode <ON>

For those of you who don't know me, I'm one of the troublemakers who is constantly flowing stuff to the FCC and ARRL about commercial bootleggers on the ATV 70cm freqs. Hundreds of pieces sent over the years, and never a single response. Does anyone else other than Tom and me care? Or should we just accept thousands of amateur systems being used for commercial video surveillance by profiteers who have no regard for amateur ethics?

Soapbox mode <OFF> "Steve shuts up".

... Steve WA3SWS

Now Tom states the situation:

The ads by manufacturers and dealers for ATV transmitters in our ham bands for non-amateur use is getting more blatant. See the latest Feb. 98 issue of Popular Electronics page 76 for instance. Here is an ad that makes no mention of amateur radio as a use or that a license is required for a 100 mw 434 MHz ATV transmitter, but instead lists its use for surveillance, movie production and local law enforcement; all illegal uses. Note Ramsey's latest "Wireless Video Headquarters" ad in 73 Magazine which is also run in non-amateur publications. Again no mention of Amateur Radio, legal uses or licensing, and not even the frequency, just cable channel 59. To the non-ham, they would have no clue as to the legal requirements and believe that they could buy and use them. Super Circuits has wised up a little and put notification that a ham license is required next to the transmitters listed on their web site, but it is just an obfuscation since they advertise exclusively in non-amateur publications. Unless we as amateurs counter the bootleggers, our UHF bands will soon be full of them. I would ask you to email your ARRL director your thoughts as I have below. Your ARRL Director is listed on page 10 of QST.

And now Tom goes on to acknowledge a manufacturer's response:

I just received Tech Americas latest flyer with Alinco's ad for HT's in it. I must commend them for their well worded notice that using the HT's requires a ham license. In case you did not see it on page 8, I have retyped it at the bottom of this.

I would like to suggest that a few words be published in the ARRL Advertisers News and "It Seems to Us..." urging manufacturers and dealers responsibly advertising ham gear in non-amateur publications and consumer electronic outlets as Alinco has done. With the current down trend and bottoming of the Amateur market, manufacturers and dealers are looking to new ways and people to sell their gear to. Electronic and computer chain stores and non-amateur magazines are one avenue they are looking at.

While there is no law against selling ham transmitters to anyone, there are those with no integrity who have been advertising and selling amateur band transmitters to the security, surveillance and wireless applications market in non-amateur publications and commercial outlets. The wireless market is a growing one and the ham band is too tempting with the FCC not enforcing the Rules actively.

One manufacturer, owned by a ham even, sells a TV transmitter and makes no reference that it is in the ham band or any frequency listed, just that you can use your cable ready TV on cable channel 59 which is 433.25 MHz. Any non-ham would probably not know that a ham license is required from this ad and cannot be used for commercial or non-amateur applications per 97.113 and 97.111. This same manufacturer also advertises and sells with impunity a complete transmitter on UHF TV channels which is also against FCC rules to manufacture as well as customers intentionally use at any power level. There are other manufacturers and dealers who may in fine print or hidden elsewhere say that a ham license is required, but their intent is clear since they exclusively advertise in non-amateur publications - sort of like the meter amplifiers in CB magazines years ago. If you call them up posing as a businessman that wants a 1-2 mile video link between his manufacturing plant and business offices, or a private detective wanting it for surveillance, they will sell it to you, no questions asked. They will persist if there is no response from the amateur radio community.

I think it would be help if the League took a pro-active leadership stand on this issue by asking ham manufacturers to notify the potential customers of their transmitters that a ham license is necessary, there are FCC penalties, cannot be used for business purposes, give sources of ham classes, books on getting a license, and the ARRL telephone number, email address and web site for new ham information. Hams also need to know through QST that their bands could start filling up with bootleggers thanks to these unscrupulous manufacturers and dealers and that they need to support those manufacturers and dealers that do properly inform the public in their marketing and not those that don't.

I am not for any law preventing anyone buying a ham transmitter, but given the lack of FCC enforcement, hams themselves need to actively reduce the bootlegger potential. We have already seen the potential here with a security camera locking up a local ATV repeater. The business owner was not aware of the law or interference potential and was not informed by the seller. Possibly the ARRL Directors would want to consider a policy of strongly recommending to any manufacturer who advertises in a League publication that they place a notification, similar to Alinco's in Tech America, in any ad in a non-amateur publication or in some way made clear by placing the notification on the transmitter box and operating manual if sold through outlets that sell more than ham gear.

Below for your info is the text of an article that Brad Thomas, the Ad manager at the League wrote and put in his latest ARRL Advertising News that goes out to all the Leagues advertisers.

...Tom O'Hara W6ORG

Now, here's a good part where Brad Thomas responds in a positive manner :

"The Sale or Ethics-It+s up to you"

Recently we received an e-mail from a well respected member of the industry pointing out what was written on Tech America+s latest flyer. He complemented the reference made to the sale of Amateur Radio equipment to the non-licensed. It went like this:

FCC License Required to operate an amateur radio. You must have a Technician Class or higher Amateur Radio License plus a call sign, both issued by the FCC. This allows you to legally transmit with an amateur radio transceiver. Transmitting without a license can result in serious penalties. Getting your license is easier than ever -- see our Communications Books section in our catalogue for study guide materials.

It is certainly known that there is no law that prevents anyone from selling Amateur Radio equipment to the unlicensed, but there is a law about operating the equipment. Sorry to say that there are dealers and manufacturer+s that look the other way if someone is looking for equipment to be used commercially, or the purchaser clearly has no intention of ever getting a license.

Who are these people hurting? Since there is very little being done by the FCC to enforce the rules, these companies are destroying the very hobby that has given them the opportunity to make money. It certainly is tempting to look the other way. But, if you were to take the proactive route as illustrated by the Tech America notice, you may be able to sell more (there+s good profit in study material) and create a dedicated customer who will return to you in the future.

It is also important to note, that we receive many comments from our members when they find out that a company has been selling Amateur Radio equipment for non-ham related activities. With the advent of the web and the associated newsgroups, these names get around rather quickly. Ask any dealer or manufacturer who has had a rough time with their reputation on the Internet, let alone on the air.

If your company has enough ethics not to dump toxic waste in your back yard, then you should have enough ethics not to pollute the bands with non-hams. Consider the future.

Brad Thomas, KC1EX
Advertising Manager

ERROR - ERROR - ERRORThe Editor is careless. Forgive me Tom!

Last issue, in my "collection of data" process, some topics got mixed. I collect these topics over a period of about 3 months so if I don't file it correctly at the start, I have a hard time remembering who said what a couple of months later. That's what happened. Tom helped to set me straight. I DO need to give credit where credit is due. Sorry, I'll do better in the future. WA8RMC.

RE pages 12 and 13 of the latest ATCO Newsletter. I am glad you put in my Emailings to the Tallahassee ATV remailer on the subject of band plans. However, you incorrectly credited Henry with my emails. I don't see anything there that Henry wrote. One you credit Blackwell with one that is also mine which is obvious since it talks about SCRRBA. Possibly they were forwarded to You from Henry or Blackwell? It would be best to credit the source for good or bad and let the chips fall where they may and those who wish to respond can do so to the right persons.

73, Tom O'Hara W6ORG

HERE'S AN ATV DX OPPORTUNITY Neat if we could do it! Anyone interested?

CHICAGO ATV REPEATER LOOKING FOR LINKS TO OTHER ATV REPEATERS

From its vantage point at the top of the Sears building, the Chicago PATC ATV repeater is in a good position to link with other systems and begin a network of ATV repeaters as others have done. Using 900, 1280 or 2.4 Ghz, radio line of sight is about 90 miles, and easily reaches South Bend, Grand Rapids, Milwaukee, Rockford, Kankakee, Lafayette, and others. From those cities, links could extend to farther systems in Ann Arbor, Toledo, Lima, Ft Wayne, Indianapolis, Champaign, Davenport, and beyond.

The PATC is interested in establishing two way links using FM video mode to any group or ham that would like to participate. The repeater is currently on 439.25 (lower VSB) input and 421.25 VSB output, horizontally polarized. A new 440 antenna system provides coverage in all directions except NE, although Michigan ATV'ers report reception at P3 levels, they are unable to access the 439 input. Currently 12 dB gain vertical 900 and 1280 antenna are available for eastern (NE to SE) coverage and links. Interested ATV'ers in northern Indiana and SW Michigan should contact the Chicago repeater to indicate any preference for receive and transmit frequencies/bands. Be aware that VLS (Lojack) operates in Chicago which limits 900 transmit frequency choices.

Here's an opportunity to increase band usage on SHF, and increase ATV activity and coverages. We may not have mountains, but we have tall buildings and towers! The Chicago area ATV intercom frequency is 144.34.

...Henry Ruh KB9FO Email: KB9FOHAM@AOL.COM

430MHz IS UP FOR SALE!

The following is from "Space News" an AMSAT email publication. I think it is also of interest to ATV'ers and a good reason to populate 900 MHz 1200 MHz and 2400 MHz with ATV repeaters before the bands are considered unoccupied and SOLD!

...Fred Juch, N5JXO

*** 70-cm SPECTRUM LOSS ***

In late January, the Telecommunications Authority in the country of Guatemala auctioned off four frequencies between 430 MHz and 435 MHz for commercial use, despite their use by amateur radio operators in that part of the world. Amateurs in the region have been trying to convince authorities not to auction spectrum that is shared by amateurs to commercial users for over a year, but as is often the case, the money that could be gained through such a frequency auction spoke much louder than reasonable arguments by Hams against the selling of spectrum rights to the highest bidder. Mexico also recently lost UHF amateur band spectrum to commercial interests, and this appears to be a disturbing trend.

Although the 430 MHz to 435 MHz spectrum loss in Guatemala does not directly effect OSCAR satellite communications, a precedence has now been set, and just as arguments against such an auction by amateur radio operators largely fell on deaf ears, there is no guarantee that frequencies within the 435 MHz to 438 MHz UHF amateur satellite sub-band will not be auctioned off to the highest bidder in the future.

The implications of frequency auction involving spectrum used by OSCAR satellites are staggering. While commercial interests buying rights to UHF spectrum are primarily concerned with short-range communication services, it is well known that even low-power transmissions can be relayed half a world away via a transponder carried on-board a communication satellite in earth Orbit. Clearly, something needs to be done to prevent future spectrum grabs that affect worldwide amateur satellite communications if OSCAR satellites are to continue to utilize spectrum that is not exclusively allocated to the Amateur Radio Service.

The situation is not all doom and gloom, however. Frequency allocations used in amateur radio satellite communications did fare well at the World Radio Conference held in Geneva, Switzerland late last year. WRC 97 delegates did agree to upgrade the Earth Exploration Satellite Service from secondary to primary at 1215 MHz to 1300 MHz, which should have only minimal impact on amateur use of 1240 MHz to 1300 MHz. The presence of these satellites reduces the possibility that other, less-compatible services might later be introduced into this band.

...Fred Juch N5JXO Email: juch@flash.net

ONE OF OUR REPEATER INPUTS WENT FROM 925 TO 915 Tom explains

Given the wide occupied bandwidth of FM ATV, 915 MHz is the practical frequency to keep the sidebands within the 902-928 MHz band, in my opinion. This assumes the USA standard of 4 MHz deviation. Sound at 4.5 MHz would make the lowest center freq. 911 & the highest 919 MHz. Sound at 5.8 MHz would make it 912 and 918. I would think going to the upper side would give a little buffer for the few weak signal types that might occupy the band, but the higher you go the more probability the strong pagers at 929 and above have of capturing the receiver. Vehicle monitoring is primary and if used in your area, you may not have a wide enough open space to permit FM ATV without getting into them. Ham FM voice repeaters are rare in most areas, but should also be considered as well as any digital systems. The HFT (High Frequency Technology Inc) transmitters come with 5.8 sound but are adj. from 4.5 to 6.5 MHz. Modulation index will of course depend on the modulating frequency of interest Vs the deviation. Video is a complex waveform with many components, most of which are far from peak deviation. The pre-emphasized color and the sound are probably the most significant. Sound injection is set to -10 dBc usually and 50 kHz subcarrier deviation. For receiving you can go with a downconverter and HFT IF70, or a satellite receiver with added preamp gain and video amp. Antenna polarization depends on application - omni vs directional, repeater vs link, price and gain - as with any band. And of course religious polarity conviction. ...Tom O'Hara W6ORG

PLANNING ATV FOR YOUR R/C MODEL? Tom has the scoop!

Any Technician class amateur radio operator can legally transmit video and audio from a R/C model in the USA. 426.25 is most used for RC to stay out of the way of other users of the band in many areas, but one should check with local ATVers before selecting the frequency. Hams are the only ones that can legally use this band. The unlicensed intentional radiation power limit in the 420 to 450 MHz band per 47CFR 15.209 of the FCC rules is only 200 microvolts per meter measured at 3 meters - that is less than .01 milliwatt into a dipole. Unlicensed people can use the FCC Part 15 tagged transmitters in the 902-928 MHz and 2.4 gHz bands, but the range will only be 150 to 500 ft depending on antennas.

The lower the frequency, the farther the distance given the same power level and antenna gain - therefore the 70cm 420-450 MHz ham band, the lowest allowed for ATV and its 6 MHz channel, will give the best results and is least costly. Snow free line of sight DX using the one watt TXA5-RC on 426.25 to a dipole, the TVC-4G downconverter and your TV set to a ground plane antenna is 2 miles. You can get useable pictures out to about 15 miles or more if line of sight. You can use a high gain beam antenna at the receive end and track the vehicle for greater DX and less snowy pictures. ATV balloons and rockets using the KPA5 board (basically the TXA5-RC with sound) have been seen for 100 miles or more.

Some want audio with the video to listen to the motor loading as clues to diving or climbing, ID, or sending GPS packets. You can add the FMA5 sound subcarrier board to the TXA5-RC or TXA5-70, or use the KPA5 all in one board. KPA5 is 3.25 x 4 inches and outputs 1 watt. You need not ID if used for RC, but is a good idea for long range or high altitude applications where your video is likely to be seen by others. The GVID board overlays your call and any other info you specify in the video and has a 10 minute timer to meet the FCC requirement. RMD Technology also has overlay boards for GPS info upon the camera video.

The TXA5-RC draws 300 ma at 12 Vdc. If you do not need the 2 mile distance, you can turn down the power on this board, or use the TXA5-70 80mw board for 1/2 mile snow free line of sight DX around a flying field and draw 80 ma at 12 Vdc. The boards are only a few oz., the main consideration is the battery size, weight vs flight time (Amp Hr rating). The transmitter should run on its own separate battery pack using 8 AA cells or replacement 12 to 14 VDC camcorder battery.

When you purchase the transmitter board from us, specify that it will be used for R/C and we will include the application note that shows how to make the dipole and ground plane and also include the low pass filter parts for your R/C receiver free. R/C receivers were not designed for being right next to a transmitter. The low pass filter in the antenna line will remove much of the strong ATV signal. In addition you will need to shield the transmitter and the receiver. We suggest the Sescom SB series tin plated boxes. The SB-6 fits the 2.25 x 4.0" TXA5 boards. Call for their catalogue or make an order at 1-800-634-3457, email is sescom@anv.net Always control check at as far a distance as possible before flying to check filter and shield effectiveness.

The receive antenna must be placed above head height to maintain line of sight. Any obstruction will reduce the signal strength. Two 5-ft pieces of TV masting are small enough to easily fit in a car to transport to the flying field for the receiving antenna. A ground plane can be made from a flange type chassis coax connector. The center is 6.5" long #12 wire and four 6.5" #12 radials are soldered into each screw hole. Bend the radials down at a 45-degree angle. For small low cost cameras, we suggest ATV Research. Call 1-800-392-3922 for their catalogue or web site. The models and prices are current on page 4 of our web site www.hamtv.com. ... Tom O'Hara W6ORG

GUESS WHAT HENRY'S NEW "TOY" IS? a cross-country tour may be coming up

Ok, here's what I got for \$1k. (cheap) A 1985 Ford F 350. Garaged since new, only 1600 miles added in last 2 years, 107 K miles total. Body in good shape, no dents, no rust. Runs good, transmission good. A slight oil leak, which was there when I drove it 8 years ago! Full stretched version. hydraulic leveling jacks, inside controls. dual fuel tanks. 2 6.5 KW ac generators (big enough for even my Henry 3004 and 4K amps!) full AC system with digital metering, breaker panel, etc standard to news trucks. All cabinets and racks, sans tv stuff. but lots of wires to figure out. 60 foot mast with air system, mast seals need fixing, leaks. huge ac on roof. roof rack, ladder and antenna farm. pan/tilt head on mast with TV rx antenna. nycoil with cables. 3 seats, drivers is in need of new covering, cracked from age and big fat butts of news people like me. all new tires. 2 kw ac inverter, dual batteries. inverter provides 2 kw AC from 12 v dc or 40 a dc from 110 ac.. usual ac and audio/video jacks on side. generators run fine. Lots of storage space behind rack bulkheads, lots of drawers in people part of van. mast is behind drivers seat, so it doesn't interfere with access anywhere. spot lights, shooting lights (curb lights in the trade) interior lights, service lights, alarm and warning system for mast and jacks. No logos to cover, plain white body paint. even the bumpers are clean and undented.

What I have wanted to do for a long time is to make good ham videos to promote ham radio. Something better than the Hams Wide World party line. Something showing fun and good times. I have complete production fax, 2 CCD cameras, digital editing, switcher, CG, audio console, lots of monitors, etc. Mast cam and mast wx radar (yes weather radar) no problem!!! antenna farm no problem. I have lots of aluminum in my yard. Scanners, vhf hf radios no problem. lots of that on hand. I don't want the usual crummy block lettered "club van" EOC type stuff on the truck. It should be PR oriented. So open for ideas from there including shooting scripts!

...Henry KB9FO

OK guys, lets decide what Henry should do with his newfound "hobby". (See what happens when he doesn't have a magazine to publish)? Ed.

OLD P.C. ELECTRONICS ATV TRANSMITTERS if you have one, read this.

Some areas have elected to go lower VSB (like ATCO) on 439.25 for their ATV repeater input to avoid receiving interference from FM voice transmitters in the 442-444 segment. However, ATVers with older rigs may experience some degradation in the color and loss of sound. The P. C. Electronics TC70-1's were designed to favor the upper vsb by phase shifting the modulated video between the driver and final in response to the now defunct AEA transmitters. The time period was from about 1988 to 1993 and for the TC70-1 transceivers and KPA5 rev E only. Before 1988 and since 1993 the transmitters are full DSB and can be used for both upper VSB or lower VSB repeater inputs. The phase shifting was primarily done with the 100 pF coupling cap at the MRF555 base on the TC70-1 board. If yours has that cap, and you are in a lower VSB input repeater area, then you can remove the 100 pF, unsolder and carefully lift out C7 and put it electrically in place of the 100 pF cap. You need not try to use the 100 pF cap holes to remount C7, just use the driver side hole of C7 and connect the other side directly to the base of the MRF555 by bending it horizontal. Before turning on the unit, double check for shorts to ground on both sides of C7 - Collector side must be more than 20 ohms and the driver side greater than 10K. If you have a short, it can pop the modulator and or final. Set C7 initially at full capacity and peak C6 and C7 for max out with no video connected and the pedestal at max. Then reset the pedestal for 60% of what ever power you read after peaking. The amount of improvement to LSB repeater inputs will vary, but should only be done to the 1 watt rigs with this 100 pF coupling cap and by people handy with a soldering iron and willing to do the tune up.

...Tom W6ORG P. C. Electronics.

DAYTON HAMVENTION SATURDAY ATV FORUM AGENDA excellent topics

On Saturday afternoon, May 16, 1998 a forum will be given for Amateur Television enthusiasts. This forum is one of the many available during the annual Dayton Hamvention®, 15-17th of May. Advance tickets may be purchased at Universal Radio on a first served basis.

3:00PM - 5:00PM FAST SCAN AMATEUR TV (ATV) in room #1.

Moderator: Bill Parker W8DMR

Speakers: Computers and Amateur TelevisionGene Harlan, KB9MMM, Editor of ATVQ Magazine
Amateur Television of North America.....John Jaminet, W3HMS and N5JXO, Fred Juch
Upgrading the DARA ATV Repeater system.....Reuben Meeks, K6GUC
Antenna Selection for ATV Useage.....Bill Parker, W8DMR

DAYTON HAMVENTION FRIDAY NITE ATV AGENDA Don't miss this one!!!

Even if you don't plan to go to the Dayton Hamvention, you would be doing yourself a disservice to miss the ATV activities on Friday night. We've planned this one much better than ever before so it promises to be great. Check out the schedule below to see what I mean. WA8RMC.

Friday Night May 15th Fast Scan ATV Meeting

Time: 7pm - 11:30pm

Location: West Carrollton Lions Club Building 435 East Main Street, West Carrollton, OH 937-859-7276. Talk in on 144.34MHz.

7:00 pm Welcome by W8STB John Hey, W3HMS John Jaminet and K6GUC Reuben Meeks

7:10 pm Live ATV Airborne from WB9NEQ- Chris Scott and W4HTB Hank Cantrell

7:45 pm Windtrax Balloon Launches- Flight Director- Charles W. Crist, WB9HIS

8:30 pm N8UDK|R (DATS) ATV Repeater, Clawson, Mich, N8UDK- Chris Oesterling

8:50 pm W4HTB's Portable Cross Band Repeater- Hank Cantrell

9:20 pm SNACK BREAK and looking at ATV Home brew Contest Projects (Lower level of Club Building)

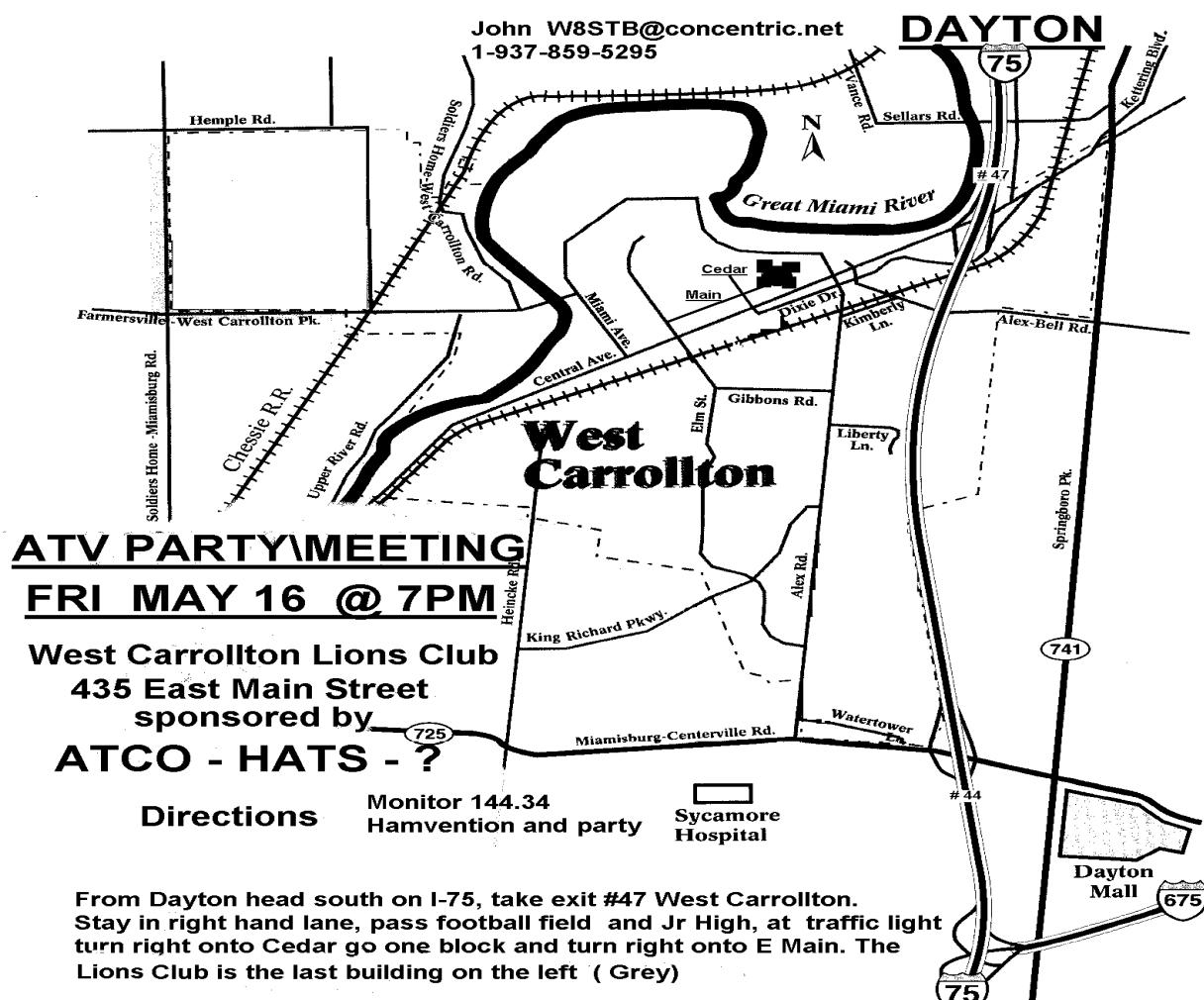
9:35 pm ATVQ drawing for (3) Dart Boards- Gene Harlan- WB8MMM

9:55 pm ATNA Part of the Program- ATNA Chairman , John Jaminet- W3HMS

Special Guest Presentation by: HB9AFO 10GHZ ATV DXing/ Europe ATV

10:35 pm Latest Flights of the Rockoon, Bill Brown, WB8ELK

Door Prizes will be given out at different times during the meeting. Winners must be present at the time of the drawing.



From Dayton head south on I-75, take exit #47 West Carrollton. Stay in right hand lane, pass football field and Jr High, at traffic light turn right onto Cedar go one block and turn right onto E Main. The Lions Club is the last building on the left (Grey)

From Cincinnati, Ohio take I-75 to exit #44 Miamisburg-Centerville. Stay in middle turn lane and turn left onto SR #725. At Alex Rd turn right. After crossing RR tracks go to 2nd Traffic light and turn left onto Central Ave. Get in right hand lane, pass football field and the Jr High, at Traffic light turn right onto Cedar go one block and turn right onto East Main. The Lions Club is the last building on the left (Grey)

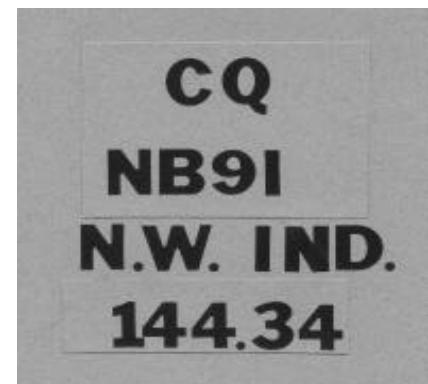
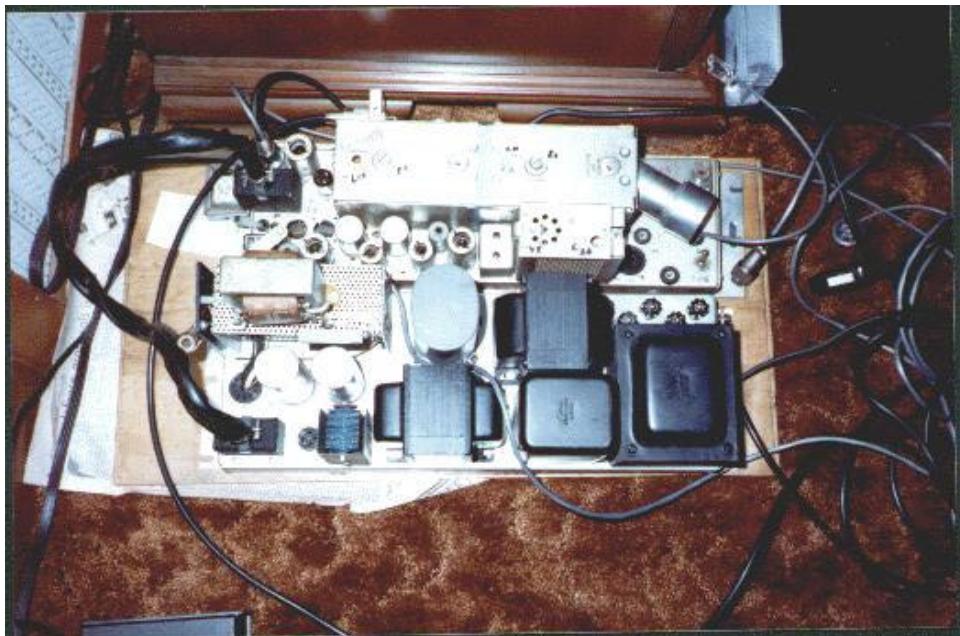
NEAT WEB SITEa Midwest ATV experience is illustrated.

A while ago, I was alerted to the existence of the web site illustrated below. Ken's experience brought back memories of my past ATV days so I thought that, with Ken's permission, I'd share it with you. I hope you don't mind. See if you have worked any of these ATV'ers. View his web site at <http://ww2.netnitco.net/users/stealth/kens.htm> for more pictures not included here. WA8RMC

Fast Scan ATV in the Midwest

The early 1980's...

A short time ago, while rummaging through old radio literature that I had accumulated, I found a photographic album that I had made in the early "80's". In this album were the snapshots I had taken of the monitor that I used for ATV reception while it was receiving ATV signals. As I view those snapshots, my thoughts go back to that time, looking at the callsigns of those that were my "locals", and those farther away who were the "DX" stations from other states. Some were "Elmers", helping me to refine my station, all were friends that shared a common interest in a fascinating hobby. As I look at the photos I realize that sadly, some have passed away.



My transmitter was a "T44" strip tube rig with a 2C39 final modified with a solid state video modulator. You can see the power supply strip on the bottom...the transmitter is above the power supply. The rf output was about 4 watts of video.

KC9AI was my first callsign on ATV. This was Merrillville's first television station !!!!...(with a whopping 4 watt signal). In 1984 I upgraded my ham call to NB9I and re-designed my callplate. I took some construction paper, "stick-on" letters and made a little sign that was pinned on the wall of the "shack".pointed the little black and white camera at that callplate and I was on the air!

My purpose in creating these ATV pages is to give present day ATV'ers a glimpse back to an earlier era of their hobby, especially the amateurs that were involved in the hobby. No doubt, some of the callplates that you see on these pages are from amateurs that are still active in the hobby. I hope they take pleasure in seeing their callplates from years gone by, and remember the calls of those no longer with us. I am glad to have preserved a record of those days here in the Midwest. I only wish that I could have taken the pictures in the glorious color that some of them were sent in. Alas, my humble station was only black and white. I am surprised that my photos turned out as well as they did. I simply took an insta-matic camera and took a snapshot of the screen. As you will see, a fair amount of the photos are not perfectly clear. Many stations did not come in at "P5" quality at my station. You are seeing the images very nearly the way I saw them on my monitor. I encourage those who are interested to download and save the images. In some cases, they are probably the only record of the individuals participation in ATV that exist.

Indiana ATV



K9HLS Gene...South Bend



(Father and son)



K9WHK Don...Hebron, Ind.



WB9LWP Carl...South Bend, Ind



WA9EMU Joe...Schererville



KA9TGX Jeff...Lafayette, Ind.



W9NTP Don...Waldron

The left photo shows the homebrew downconverter I used for ATV reception. It housed a GaAsFet preamp and a Mitsumi tv tuner "padded" down in frequency. I used the output of the tuner to directly feed the I.F. of the TV monitor. Behind the monitor is a tuned cavity on the input of the downconverter. It was used to keep the 2meter signal "talk-back" chatter from disturbing the received video.



KC9AI Ken...Merrilville

Iowa ATV



WB0QCD Mike

Mike was the editor of A5 magazine at that time... it was dedicated to amateur tv. It may have been the first magazine out on that topic. I remember being a subscriber and looking over my "wish-list" of items to make a better ATV station. It also had a number of good homebrew projects to enhance the station.



KA0BVT Don...Moscow

Michigan ATV



WD8RQA Wolfgang...Berrien Springs



K8DMR Ron...Grand Rapids



W8IMA Richard

This era was nearing the end of the vacuum tube domination. The old tube rigs were difficult to get good color without really broadbanding the output, thus sacrificing output power. The new solid state stuff was by nature broadbanded enough to not only have good color but also good subcarrier audio. Some "old timers" got around the audio problem by running a separate transmitter exclusively for audio. Most of our video was sent on 439.25Mhz. Ron, W9ZIH used 436Mhz to stay away from the encroaching 440Mhz FM repeaters. Ron was our "older brother" on the band. He always had a potent signal and could detect even the slightest band opening first. I remember many times he would tell us all to "look" to a certain direction for DX. He had a 90ft. tower on his lot and excellent receiving equipment. During a good band opening he could often see Canada coming in on UHF broadcast television!

Missouri ATV

This station was the one that I had "chased" ever since I first fired my station up on ATV. Ron, W9ZIH had told me that his signal came up this way as propagation permitted. There was a bit of friendly rivalry between myself and Garry, K9WZB from Hebron as to who would be the first station to work "ZJP". As luck would have it, I went on vacation for a week that summer and that was the week that "ZJP" had a good signal up in N.W. Indiana! Of course ,Garry was ready and hooked up with him. Oh well, I got to work him just a couple weeks later. Adding to the incentive of "working" WB0ZJP was that fact that he had a great looking QSL card. The card was a picture of an oscilloscope tracing a video signal with the call WB0ZJP superimposed on the trace..... great photography!!



WB0ZJP Dave...St Louis

Ohio ATV



WA8ZAH Tom...Cincinnati



KA8SPH John...Cincinnati

Illinois ATV



KA9CSO Angelo...Inverness



N9CRN Mike...Burbank

I found out about ATV by listening in on the "talkback" frequency on 144.34mhz. While listening to those on frequency "talking the picture in", I broke in and got some helpful advice on getting started. Mike, N9CRN was very helpful with helping me obtain the surplus gear needed to put a signal on the air and also getting the gear working. Ron, W9ZIH and others in the Chicagoland area were very helpful in getting my station up and running. If it wasn't for these Illinois hams, I probably wouldn't have succeeded getting a picture



W9ZIH Ron...Hickory Hills



W9LK Adolf...Chicago



KB9FO Henry...Chicago

Adolph, W9LK was one of my "Elmers" also....we chatted about his Merchant Marine days....I traveled to his house one day and was amazed at all the homebrew equipment laying around. He and I liked to chat about the advantages of FM modulated video. He gave me a small FM video modulated transmitter so that I could transmit from Merrillville and be a "test signal" for his receiving equipment. I didn't think about it at the time, but that was probably the first FM video signal sent from this area. I still have that little transmitter.

WISCONSIN ATV



N9BMH Marty...Milwaukee



K9KLM Dick...Racine



K9DOE Dave...Racine

I recall one summer afternoon that I was tinkering with the transmitter, sending a signal just a little west of North from Merrillville. I was trying to send my little 4 watt signal into the Chicagoland area. It was a nice summer day, no one from that area was on the air. Suddenly, the 2meter rig came to life on 144.34mhz. I got a call from one of the Milwaukee, Wisc. area ATV'ers! You could hear the excitement in his voice as he said he was copying my little signal at a P5 level! We both found out, at that time, that there was a huge "tropo" opening between us. After that station and I exchanged signals, he passed me on to the other ATV'ers in the area. We all exchanged video and chatted. They were so excited because I was the first Indiana ATV station that they had worked!!

Well, back to the late "90's"!! I hope that you looking back at early "80's" ATV as much as I did. It was fun putting this material together for you. I'm glad the internet is here so that I could share these memories and photos with all who are interested. Thanks for dropping by this way!!

...Ken NB9I

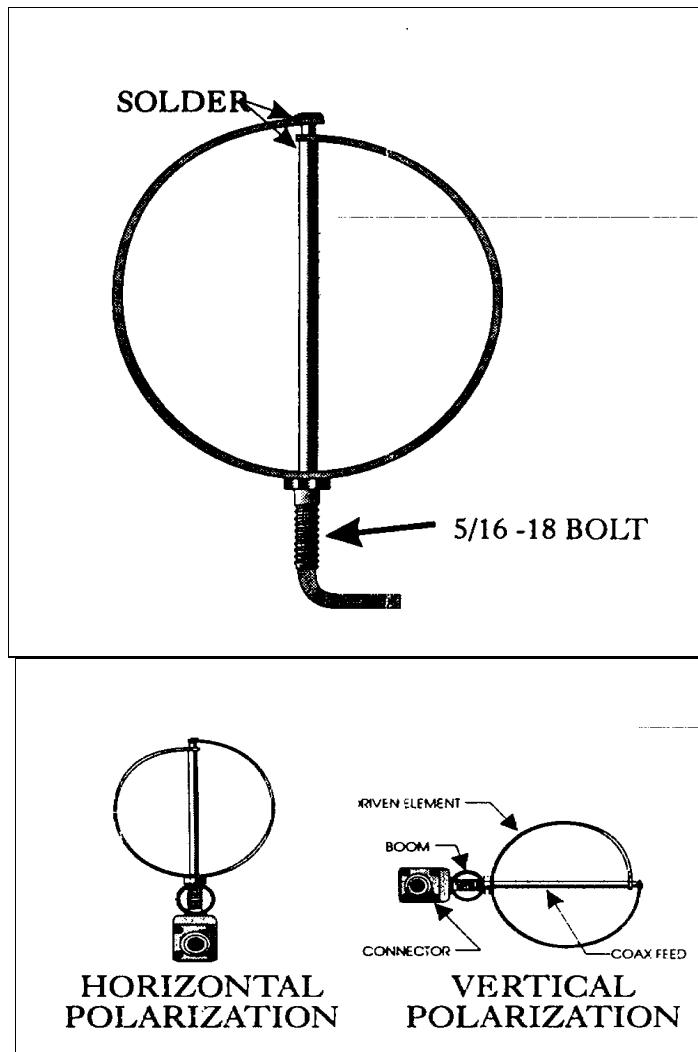
BUILD THIS 2400 MHz LOOP YAGI And see the newest addition to the repeater

Ted N8KQN has been busy during the cold weather utilizing his creative antenna talents. Because he knew that the repeater was to receive a new output on 2433 MHz, he decided to crank up the antenna plotting program and create something we can use to look at it with. Good job Ted. Next time, I hope I can report at least one person that has built it. When you get right down to it, this one's real easy. Just look at the size and I'm sure you'll decide to try it soon! The construction is detailed construction below.

Each loop can be made from 0.25 inch wide x .03 thick brass or aluminum. The driven element (DE) must be brass however, so it can be soldered to the bolt and coax as shown. Drill a hole .125 hole .125 from each end and form the piece into a loop. Fasten to the boom with 4-40 stainless screws. Ted didn't identify the actual gain but it's estimated to be about 15dBD. The SWR should be less than 1.5:1 at 2433 MHz.

The figure below illustrates the position of the driven element for the desired polarization but should be set for vertical if the ATCO repeater is viewed. The coax used is 1/8" rigid line to connect to the driven element. It can then be adapted to an "N" fitting with a standard hood before connecting to the coax downfeed. Be sure to use the best coax available here because of the high losses. 1/2 or 3/4" Heliax is ideal but the absolute minimum should be 9913 and only if a short run is used (50 ft or less).

Element	Distance from end of boom	Element Total length (circumference + 0.25)
REF	4.06	5.44
DE	4.56	5.16
DIR01	5.09	4.41
DIR02	5.56	4.94
DIR03	6.41	4.94
DIR04	7.31	4.94
DIR05	7.94	4.94
DIR06	9.06	4.69
DIR07	10.63	4.69
DIR08	13.63	4.69
DIR09	14.38	4.69
DIR10	16.19	4.69
DIR11	18.00	4.69
DIR12	19.75	4.44
DIR13	21.50	4.44
DIR14	23.25	4.44
DIR15	25.00	4.44
DIR16	26.75	4.44
DIR17	28.50	4.44
DIR18	30.25	4.25
DIR19	32.00	4.25
DIR20	33.75	4.25
DIR21	35.50	4.25
DIR22	37.25	4.25
DIR23	39.00	4.25
DIR24	40.75	3.44
DIR25	42.50	3.44



MORE NEWS FROM CHICAGO

The Chicago ATV Repeater PATC, operated by KB9FO recently underwent an antenna change. The results have been 2-3 P units improvement in all areas of use. The only area with less coverage is east of the Sears tower, which blocks the signals as the antennas are on the SW corner of the building at the 106th floor level. Prior, there were two active antennas, one in the north window facing NW, and one in the west window facing SW. There are now three antennas, all in the SW corner of the building, facing NW, SW and SE. Stations in Indiana should now have a much improved coverage. Henry actually saw his own repeater for the first time ever at his Indiana QTH, 45 miles away, using a regular UHF TV antenna, 50 feet of RG 59 and a PC TC-70. The signals were p1-P2, but allowed contact with 5 other stations the first night. The system operates on 439.25 MHz input, horizontal polarization, and lower sideband VSB, and 421.25 MHz output, VSB, horizontal polarization, with 400 watts ERP.

After local discussions, an output on 916.25 will be added shortly. The antenna has 12 dB gain & will face east from the east side of the building with about 1 KW ERP. It will be on **continuously**, either in repeat or local camera/ID mode. Look for it after March 30.

Three FM voice repeaters share the same cabinet and antennas using vertical polarization on 2, 220 and 440 MHz Try 147.39/99 KA9PZQ There is no interference from the co-located 443 MHz FM repeater due to adequate RF filtering on all systems.

The ATV system will be adding 13 cm FM video mode receive to the east window location in the near future also. All inputs and outputs are cross connected. The live camera will be facing south east, showing the lake shore from downtown to Indiana and Michigan. A second 8 ft cabinet has been added to make room for more elaborate control systems and more RF goodies in the future. ...Henry KB9FO

SILENT KEY

It is with great sadness that we must report the passing of our long time Dayton area ATVer Charley Tucker K8AOH. Charley, living in Springfield, was always active in ATV for as long as I can remember. He was one of the "regulars" at the ATCO Spring and Fall events and brought much wisdom to the ATV community. We'll miss you Charley.

NEW MEMBER SECTION

Let's welcome the new members to our group! If any of you know anyone who might be interested, let one of us know so we can flood them with information. New members are the lifeblood of our group so it's important that we actively recruit new faces aggressively.

KB8YIO Richard Wise, Columbus, Ohio

N8WLT James Neymeyer, Columbus, Ohio

W4/F5BJZ Marzel Pitzini, Decatur, Georgia (notice the location, Guys. Lets all look for him on the Tuesday Nite Net)

W8JND Richard Knowles, Circleville, Ohio

HAMFEST CALENDAR

This section is reserved for upcoming hamfests for as far in advance as we know about them. They are limited to Ohio and vicinity easily accessible in one day. Anyone aware of an event incorrectly or not listed here notify me so it can be corrected. I maintain some fliers that compile this list so for additional info Email me at towslee@ee.net. This list will be amended as further information becomes available.

April 26... Athens, Ohio (no other info available)

April 26....Canfield, Ohio.....Canfield Fairgrounds 8:00 AM 147.315, 443.225 talk in.

May 31....Columbus, Ohio..... Franklin County Fairgrounds 8:00AM 147.09, 146.76, 147.24 talk in.

July 12....Bowling Green, Ohio.. Wood County Fairgrounds 8:00 AM 147.18, 444.475 talk in.

May 15, 16, 17 Dayton, Ohio.....Dayton Hamvention

June 7.....Medina, Ohio.....Medina County Fairgrounds 8:00 AM 147.63 talk in

• ODDAYS EVENS •

EQUIPMENT SUPPLIERS

Below is a list of manufacturers of ATV equipment that I have found. There is no endorsement of any of the manufacturers listed below so buyer beware. If I or anyone else that I know of, has had any trouble with a manufacturer, it won't be listed. As I get more info, I'll add manufacturers. Likewise, if I hear of any trouble, it'll be removed. Good luck and keep me advised. WA8RMC

Michael Kohlstadt, KD6UJS

has a limited supply of used but working Pacific Monolithics 2.4ghz downconverters and power supplies which will work fine for viewing the repeater.

408-926-0430.

Down East Microwave

Antennas, Power Amplifiers, Deluxe Downconverters, microwave parts.
954 Rt. 519 Frenchtown, NJ 08825
Phone: 908-996-3584
Fax: 908-996-3702

HF Technologies Inc.

FMTV Transmitters, Receivers
457 Santa Fe Trail
Cary, IL 60013
708-639-4336

PC Electronics

ATV Transmitters, Receivers Manufacturer/Reseller
2522 Paxson Ln.
Arcadia, CA 91009-8537
Phone: 818-447-4565
Fax: 818-447-0489

Phillips-Tech Electronics

MMDS, ITFS downconverters and antenna systems
P.O. Box 8533
Scottsdale, AZ 85252
Phone: 602-947-7700
Fax: 602-947-7799

R. Myers Communications

Good, single unit, source for 2.4GHz dishes
P.O. Box 17108
Fountain Hills, AZ 85269-7108
Phone: 602-837-6492
Fax: 602-837-6872

SHF Microwave Parts Company

10GHz Gunn oscillators and Antennas
7102 W. 500 S.
LA PORTE, INDIANA, 46350
Fax: 219-785-4552

Wyman Research Inc.

FMTV Transmitters, Receivers
Box 95, RR 1
Waldron, IN 46162
Phone: 765-525-6452

DCI Communications

Interdigital filters and cavities
Box 293, 29 Hummingbird Bay
White City, SK, Canada S0G5B0
306-781-4451

ATV Research Inc.

TV cameras & related parts
1301 Broadway PO Box 620
Dakota City, NE 68731-0620
402-987-3771
www.atvresearch.com
atc@pionet.net

GEKCO Inc

TV test signal circuit boards
PO Box 642
Issaquah, Wa 98027-0642
425-392-0638
sales@gekco.com
www.gekco.com

M2

Antennas
7560 N. Del Mar Ave.
Fresno, Ca 93711
209-432-8873

ATV Quarterly (ATVQ)

ATV magazine publisher
5931 Alma Drive
Rockford, Il. 61108
Phone 815-398-2683
FAX 815-398-2688
atvq@aol.com
<http://www.cris.com/~Gharlan>

Note: Additional commercial vendors may be viewed on the Internet at <http://bro.net/explorer/vendor.html>.

INTERNET INFO

If you have access to the INTERNET, you may be interested to know of some of the HAM related information that is available. Most addresses listed below are case sensitive, so type exactly as shown below. (If anyone has comments or would like additional listings contact me via Email at towslee@ee.net).

<http://psycho.psy.ohio-state.edu/atco>
http://www.bright.net/~rmeeksjr/atv_day.htm
<http://fly.hiwaay.net/~bbrown/index.htm>
WB8ELK
<http://www.netbox.hayden.edu/Guests/AATV>
<http://www.citynight.com/atv>
<http://www.ladas.com/ATN>
<http://w6yx.stanford.edu/~stevem/atv>
<http://www.qsl.net/wb6izg>
<http://home1.gte/k4lk>
<http://www.mindspring.com/~rwf/aatn1.html>
<http://ww2.netnitco.net/users/stealth/kens.htm>
<http://www.smart.net/~brats>
<http://www.murphysoftware.com/dats>
<http://www.njin.net/~magliaco/atv.html>
<http://www.intercenter.net/triatv/atv-web.htm>
<http://www.navicom.com/~satva/satvainf.htm>
<http://www.lloydio.com/oatva.html>
<http://www.webczar.com/atv>
<http://members.aol.com/n3kkm/w3hzu.html>
<http://www.usaor.net/users/ka3fzf/index.htm>
<http://www.geocities.com/Hollywood/5842>
<http://www.stevens.com/HATS/home.html>
http://uugate.aim.utah.edu/utah_atv/root.html
<http://www.bchfs.org/metrovision/atv.htm>
<http://www.qsl.net/w7twu>
<http://scott-inc.com/wb9neq.htm>
<http://www.premiernet.net/~hcancrl/>
<http://www.ecn.net.au/~sbloxham/index.html>
<http://ourworld.compuserve.com/homepages/batc>
<http://www.sfn.saskatoon.sk.ca/recreation/hamburg/hamatv.html> Saskatoon, Canada ATV
<http://www.gpfn.sk.ca/hobbies/rara/atv3.html>
<http://www.inside.co.uk/scart.htm>
<http://www.cmo.ch/swissatv>

ATCO ATV home page.
Ohio, Dayton ATV group
Alabama, Huntsville, Tennessee Valley ATV (Bill Brown
Arizona, Phoenix Amateurs
California, San Francisco ATV
California, Amateur Television Network in Central / Southern California, South Bay ATV Group Stanford University
California, southern ATV Sights and Sounds
Florida, Tampa Bay ATV Society (TBATS)
Georgia, Atlanta ATV
Indiana KB9I homepage
Maryland, Baltimore Radio Amateur Television Society (BRATS)
Michigan, Detroit DATS ATV
New Jersey, Brookdale ARC in Lincroft
N. Carolina, Raleigh.Triangle ATV club
Oregon, Silverton, Salem ATV Assoc (SATVA)
Oregon, Portland ATV (OATVA)
Oklahoma, Tulsa Amateur TV (TARC)
Pennsylvania, York Keystone VHF Club
Pennsylvania, Pittsburg Amateur Television in Pittsburg
Tennessee, East ATV
Texas, Houston ATV
Utah ATV
Virginia, Alexandria
Washington, Western Washington Television Society (WWATS)
Airborn ATV from WB9NEQ in Bowling Green, Kentucky
Kentucky, Bowling Green (CKATS)
Australia, ATV, VK4GY (large list of other ATV & ham radio sites)
British ATV club (BATC)
Regina, Canada ATV
UK, Great Britain ATV (SCART)
Swiss ATV

NOTE: If you're a regular Internet browser, maybe you'd like to be kept up to date on all of the ATV related news generated Nationally. If so, subscribe to the "ATV Internet mailing list" to receive the bulletins automatically. If you'd like to SEND a message to all other subscribers this can be done also. It's free to all. To *subscribe*, send Email to "listserv@tallahassee.net" and include in the message the line **SUBSCRIBE ATV**. To *send a message* address it to "ATV@tallahassee.net". To be *removed* from list, send Email to "listserv@tallahassee.net" and include in the message "**UNSUBSCRIBE ATV**".

The following addresses are helpful in searching for many different Ham Radio items on the INTERNET.

<http://www.cris.com/~Gharlan>
<http://www.hamtv.com>
<http://downeastmicrowave.com>
http://www.yahoo.com/Entertainment/television/Amateur_television Listing of some of the available ATV home pages.
<http://www.acs.ncsu.edu/HamRadio>
<http://www.arrl.org/hamfests.html>
<http://amsat.org>
<http://www.arrl.org>
<http://www.ualr.edu/doc/hamualr/callsign.html>
<http://hamradio-online.com>
<http://www.smart.net/~brats/atna.html>

ATVQ Magazine home page. ATV equipment & article references.
PC Electronics Inc. Lots of proven ATV equipment for sale.
Down East Microwave Inc. Lots of uhf/microwave parts & modules.
General ham radio info- satellite track, call sign database etc.
Current yearly hamfest directory.
AMSAT satellite directory/home page.
ARRL home page
Search by call sign or name.
Ham Radio Online "newsletter" Lot of Ham related information.
ATNA homepage

ATCO REPEATER TECHNICAL DATA SUMMARY

This space of each publication includes the technical information of our repeater. Each time a new feature is brought on line it's added here. Use this as a quick reference for up/down access codes as well as some of the more important parameters of our system.

Main repeater: Location: Downtown Columbus, Ohio

Coordinates: 82 degrees 59 minutes 53 seconds (longitude)
39 degrees 57 minutes 45 seconds (latitude)

Elevation: 630 feet above average street level
1460 feet above sea level

Transmitters: 427.25 MHz AM modulation, 1250 MHz FM modulation and 2433 MHz FM modulation.
interdigital filters in output line of 427.25 & 1250 transmitters
Transmitter Output Power - 40 watts average 80 watts sync tip (427.25)
50 watts continuous (1250)
8 watts continuous (2433)
Link transmitter - 1 watt NFM 5 kHz audio (446.350 MHz)

Identification Both 427, 1250 and 2433 transmitters identify simultaneously every 10 minutes with video showing ATCO and WA8RUT with four different screens. Audio identification is 4 sequences of Morse Code.

Transmit antenna: 427.25 MHz - Dual slot horizontally polarized 7 dBd gain major lobe west
1250 MHz - Diamond vertically polarized 12 dBd gain omni
2433 MHz - Comet vertically polarized 12 dBd gain omni

Receivers: 147.45 MHz for F1 audio input control of touch tones
439.25 MHz for A5 video input with FM subcarrier audio (lower sideband)
915 MHz for F5 video link data from remote sites
1280 MHz for F5 video input

Receive antennas: 147.45 MHz - Vert. polar. Hi Gain "Comet" 12 dBd (also for 446 MHz output)
439.25 MHz - Horiz. polar. dual slot 8 dBd gain major lobe west
915 MHz - Vert. polar. dB Products 10 dBd gain
1280 MHz - Horiz. polar. single slot 3 dBd gain major lobe west.

		<u>UP</u>	<u>DOWN</u>
Input control:	Major Touch tones: beacon (5 min)	*439	*22
	regional weather radar	697	#
	Local radar(5 min)	264	#
	User repeat 1 minute	*45	*22
	Touch tone pad tester	#0	#5
	Manual mode (ID)	*77 90	*22
	(910 input)	*77 91	*22
	(439 input)	*77 92	*22
	(1280 input)	*77 93	*22
	(future)	*77 94	*22
	5 second ID	#9	*22
	Bulletin board	285 pause 92	286
	Roof Camera	285 pause 95	286
	Reset to scan mode	D37 or #437	

Remote sites: Local radar (inactive at this time) (915 MHz link output 8 watts)
Aux link at WA8RUT QTH (915 MHz link output 1 watt)
Aux link at WB8CJW QTH (915 MHz link output 1 watt)

ATCO MEMBERSHIP INFORMATION

Membership in ATCO (Amateur Television in Central Ohio) is open to any licensed radio amateur who has an interest in amateur television. The annual dues are \$10.00 per person payable on January 1 of each year. Additional members within an immediate family and at the same address are included at no extra cost.

ATCO publishes the ATCO newsletter quarterly in January, April, July, and October. The newsletter is sent to each member without additional cost.

The membership period is from January 1ST to December 31ST. New Members will receive all ATCO newsletters published during the current year prior to the date they join ATCO. For example, a new member joining in June will receive the January and April issues in addition to the July and October issues. Your support of ATCO is welcomed and encouraged.

ATCO CLUB OFFICERS

President: Art Towslee WA8RMC

Repeater trustees: Art Towslee WA8RMC

V.President: Ken Morris WA8RUT

Ken Morris WA8RUT

Treasurer: Bob Tournoux KF8QU

Dale Elshoff WB8CJW

Secretary: Rick White WA3DTO

Rick White WA3DTO

Corporate trustees: Same as officers

Newsletter editor: Art Towslee WA8RMC

ATCO MEMBERSHIP APPLICATION

RENEWAL NEW MEMBER DATE _____ CALL _____

OK TO PUBLISH PHONE # IN NEWSLETTER YES NO HOME PHONE _____

NAME _____ INTERNET _____ Email _____

ADDRESS _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

FCC LICENSED OPERATORS IN THE IMMEDIATE FAMILY

COMMENTS _____

ANNUAL DUES PAYMENT OF \$10.00 ENCLOSED CHECK MONEY ORDER

Make check payable to ATCO or Bob Tournoux & mail to: Bob Tournoux KF8QU 3569 Oarlock CT Hilliard, Ohio 43026

TUESDAY

NITE NET ON 147.45 MHz SIMPLEX

Every Tuesday night @ 9:00PM WA8RMC hosts a net for the purpose of ATV topic discussion. There is no need to belong to the club to participate, only a genuine interest in ATV. All are invited. For those who would like to check in, the general rules are as follows: Out-of-town and video check-ins have priority. A list of available check-ins is taken first then a roundtable discussion is hosted by WA8RMC. After all participants have been heard, WA8RMC will give status and news if any. Then a second round follows with periodic checks for late check-ins. We rarely chat for more than one hour so please join us if you can.

ATCO

TREASURER'S REPORT - de KF8QU

OPENING BALANCE (1/15/98).....	\$ 640.75
RECEIPTS (dues).....	\$ 190.00
OTHER INCOME (bank interest).....	\$ 5.11
EXPENDITURES	
January Newsletter film.....	\$
6.29	
Postage for October Newsletter.....	\$ 35.75
Paper and mailing labels for January Newsletter	\$ 8.97
Postage for January Newsletter.....	\$ 33.00
CLOSING BALANCE (4/10/98).....	\$751.85

ATCO MEMBERS AS OF 19 APRIL 1998

email

K8AEH	Wilbur Wollerman	1672 Rosehill Road	Reynoldsburg	Oh	43068	866-1399
WB4BBF	Randall Hash	212 Long Street	Bluefield	Va	24605	
W4/F5BJV	Marcel Pitzini	443 Eastland Drive	Decatur	Ga	30030	404-378-2772
KC8CNV	Jack Compson	5065 Sharon Hill Dr	Columbus	Oh	43235	451-4054
WB8CJW	Dale Elshoff	8904 Winoak Pl	Powell	Oh	43065	766-5823
dale.elshoff@usiny.mail.abb.com						
N8CYV	Blaire Standley	721 West North St	Springfield	Oh	45504	
WA8DNI	John Busic	2700 Bixby Road	Groveport	Oh	43125	491-8198 wa8dni@juno.com
K8DW	Dave Wagner	2045 Maginnis Rd	Oregon	Oh	42616	419-691-1625
WA4DFS	Ed Walker	PO Box 150	Mountain City	Tn	37683	423-727-9611 ebwalker@preferred.com
WA3DTO	Rick White	5314 Grosbeak Glen	Orient	Oh	43146	877-0652 wa3dto@aol.com
WB8DZW	Roger McEldowney	5420 Madison St	Hilliard	Oh	43026	876-6033
W8EHW	Foster Warren	P.O. Box #32	No. Hampton	Oh	45349	
WD4GSM	E.R. Hall	4955 Pole Bridge Rd	Wise	Va	24293	540-328-9235
K6GUC	Reuben Meeks	428 Lewiston Road	Kettering	Oh	45429	937-294-0575
KA8HAK	Jim Reese	1106 Tonawanda Ave	Akron	Oh	44305	
W8JND	Richard Knowles	573 Plaza Drive	Circleville	Oh	43113	477-8132
N8KQN	Ted Post	1267 Richter Rd	Columbus	Oh	43223	276-1820
WA8KQQ	Dale Waymire	225 Rifle Ave	Greenville	Oh	45331	513-548-2492
K8MBY,N8SIR,KB8UVK	Phil,Jim,Phil jr Buckholdt	153 East Bergey St	Wadsworth	Oh	44281	
N8LRG	Phillip Humphries	3226 Deerpath Drive	Grove City	Oh	43123	871-0751 phumphries@iwaynet.net
KA8MID	Bill Dean	2630 Green Ridge Rd	Peebles	Oh	45660	deanfam@bright.net
KB8MDE	Shaun Miller	5061 County Rd 123	Mt Gilead	Oh	43338	419-768-2588 kb8mde@bright.net
K8MZH	Leland Hubbell	7706 Green Mill Road	Johnstown	Oh	43031	967-8412
WD8OBT,KB8ESR,KA8ZPE	Tom Camm & sons	1634 Dundee Court	Columbus	Oh	43227	860-9807
N8OCQ	Robert Hodge	3689 Hollowcrest	Columbus	Oh	43223	875-7067
N8OOA	Jeff Clark	9894 Fincastle-Winchester	Sardinia	Oh	45171	937-695-1229
N8OPB	Chris Huhn	146 South Hague Ave	Columbus	Oh	43204	279-7577
W6ORG	Tom O'Hara & family	2522 Paxson Lane	Arcadia	Ca	91007	626-447-4565 tom@hamtv.com
WB8OTH	Perry Yantis	1850 Lisle Ave	Obetz	Oh	43207	491-1498 pyantis@compuserve.com
WA2PCH	Craig Stoll	PO box 1117	Orchard Park	Ny	14127	
KE8PN	James Easley	1507 Michigan Ave	Columbus	Oh	43201	421-1492 jeasly@ee.net
W8PGP,WD8BGG	Richard, Roger Burggraf	5701 Winchester So. Rd	Stoutsville	Oh	43154	614-474-3884
KF8QU	Bob Tournoux	3569 Oarlock Ct	Hilliard	Oh	43026	876-2127
	rturnou@columbus.rr.com					
W8RIK	Joe Hussey	1678 Sandhurst Rd	Columbus	Oh	43229	895-7601
WA8RMC	Art Towslee	180 Fairdale Ave	Westerville	Oh	43081	891-9273 towslee@ee.net
WA8RUT,N8KCB	Ken & Chris Morris	3181 Gerbert Rd	Columbus	Oh	43224	261-8583 wa8rut@aol.com
W8RVH	Richard Goode	9391 Ballentine Rd	New Carlisle	Oh	45334	513-964-1185 rgoode@erinet.com
WD8RXX	John Perone	3477 Africa Road	Galena	Oh	43021	
WA8SAR	Gary Obee	3691 Chamberlain	Lambertville	Mi	48144	
N8SFC	Larry Campbell	316 Eastcreek Dr	Galloway	Oh	43119	851-0223 larry@psycho.psy.ohio-state.edu
W8STB	John Hey & family	894 Cherry Blossom Dr	West Carrollton	Oh	45449	937-859-5295 w8stb@juno.com
N8TBU	Ed Latham	8399 Fairbrook Ave	Galloway	Oh	43119	
KB8TRP,KB8TCF	Tom, Ed Flanagan	1751 N. Eastfield Dr	Columbus	Oh	43223	272-5784
WA8TTE	Phil Morrison	154 Llewellyn Ave	Westerville	Oh	43081	
KB8UGH	Steve Caruso	39 South Garfield Ave	Columbus	Oh	43205	461-5397
	scaruso@freenet.columbus.oh.us					
WB8URI	William Heiden	4435 Kaufman Rd	Plain City	Oh	43064	614-873-4402
KB8UU	Bill Rose	9250 Roberts Road	West Jefferson	Oh	43162	879-7482
WB8VJD	Rick Morris	203 Merton Street	Holland	Oh	43528	
KA8VUQ	Jack Wolff	2682 Hiawatha Ave	Columbus	Oh	43212	263-3092
W8WAU	Jake Fuller	PO Box 117	No. Hampton	Oh	45349	
N8WLT	James Neymeyer	2879 East Moreland Drive	Columbus	Oh	43029	237-2331
KB8WBK	David Hunter	45 Sheppard Dr	Pataskala	Oh	43062	927-3883 dhunter147@aol.com
N8XYJ	Dan Baughman	4269 Hanging Rock Ct	Gahanna	Oh	43230	471-1089
KB8YIO	Richard Wise	1465 25 th Ave	Columbus	Oh	43211	291-6508
KB8YMN	Mark Griggs	2160 Autumn Place	Columbus	Oh	43223	272-8266 mmgrigs@aol.com
KB8YMQ	Jay Caldwell	4740 Timmons Dr	Plain City	Oh	43064	
KB8ZLB	Dave Kibler	243 Dwyer Rd	Greenfield	Oh	45123	937-981-4007 darlakib@bright.net
KA8ZNY,N8OOY	Tom & Cheryl Taft	386 Cherry Street	Groveport	Oh	43125	836-3519 ka8zny@copper.net

***Email* I'm adding Email addresses. I will send each listed recipient Email notices of upcoming special events. If you'd like to be included in these mailings, let me know by letter, Tuesdaynite net or by return Email, and I'll put you on thelist...WA8RMC towslee@ee.net.**

ATCO Newsletter
c/o Art Towslee-WA8RMC
180 Fairdale Ave
Westerville, Ohio 43081

FIRST CLASS MAIL

**REMEMBER...CLUB DUES ARE NEEDED.
CHECK MAILING LABEL FOR THE EXPIRATION DATE AND SEND KF8QU A CHECK IF EXPIRED.
(MORE MONEY = BETTER FOOD AT SPRING EVENT)**
